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Rhodora

JOURNAL OF THE
NEW ENGLAND BOTANICAL CLUB

Conducted and published for the Club, by

REED CLARK ROLLINS, Editor-in-Chief

ALBERT FREDERICK HILL
STUART KIMBALL HARRIS
RALPH CARLETON BEAN
RICHARD ALDEN HOWARD
CARROLL EMORY WOOD, JR.

Associate Editors

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The New England Botanical Club, Inc.

8 and 10 West King St., Lancaster, Pa.

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THE NEW ENGLAND BOTANICAL CLUB A HALF-CENTURY AGO AND LATER

ARTHUR STANLEY PEASE¹

EVEN such a palaeozoic as I do not, from my own experience, recall the founding of this club, but from a brief historical sketch in *Rhodora*² by Emile F. Williams I learn that when W. H. Manning had called together a group of local botanists for consultation about a flora of the Metropolitan Parks, all were surprised and shocked to find how unacquainted with one another most of them were. Accordingly, at a later meeting, on December 10, 1895, at the house of Professor W. G. Farlow in Cambridge (now the headquarters of the Harvard Graduate School of Arts and Sciences), the present organization was formed, with Farlow as the first president, the purpose being, as stated in the by-laws, "the promotion of social intercourse and the dissemination [an appropriate botanical metaphor] of local and general information among gentlemen interested in the flora of New England." The term "gentlemen" was intended to emphasize (1) the distinctly staminate character of the group, which was to be no afternoon gathering associated with tea-cups and lumps of sugar, and (2) a certain standard of presentability and behavior.³

¹ Rewritten from remarks at the five hundredth meeting of the club, February 2, 1951.

² *Rhod.* 1 (1899), 37-39.

³ Years later seven botanists arrived late one evening, hungry, tired, and shabby, from a long-delayed train, at the chief hotel in Halifax, N. S., where the leader, Fernald, had wired for accommodations for the party. Finding that we were to be crowded into a small space, two in a bed, Fernald vigorously protested that he had telegraphed for rooms for seven gentlemen. "Gentlemen don't sleep two in a bed; mill hands do, but not gentlemen." Though the rest of us were so tired that we would have slept seven in a bed, he maintained his point, and we were each given a room.

Williams remarks:⁴ "It speaks well for the cultivation of the American business class that it contributes to the club almost as many members as the professional botanists themselves, the remainder of the membership comprising teachers, . . . physicians, lawyers, literary men, and men of leisure, but not of idleness, this favored class furnishing some of the most efficient members of the club."

At first the meetings were held in the houses of members, but attendance so increased that by 1896 the club moved to the St. Botolph Club on Commonwealth Avenue (where I first knew it), in 1903 to the Hotel Brunswick, in 1906 to the Twentieth Century Club on Joy St., and in 1923 to the house of the American Academy of Arts and Sciences.

As an undergraduate I had been a member of the old Harvard Natural History Society, where I had known C. H. Knowlton, LeRoy Andrews, J. M. Hunnewell, and M. L. Fernald, the last named being still an assistant in the Gray Herbarium. I had also subscribed to *Rhodora*, in the third volume of which (July, 1901) Walter Deane described a white-fruited *Gaylussacia*. That same month there was brought to my notice a white-fruited high-bush blueberry bush in a pasture a mile from my house in Andover, Mass., and I was so bold as to send specimens of it to Mr. Deane, who speedily published it in *Rhodora*⁵ as a new form, *Vaccinium corymbosum* L., var. *atrococcum* Gray, f. *leucococcum*⁶ Deane. Further, when Deane learned that I was a college student on my vacation he invited me to come to see him in Cambridge in the fall, and, after closer acquaintance, took me as his guest on May 2, 1902, to the Club meeting at the St. Botolph Club, at which Dr. R. G. Leavitt of the Ames Laboratory spoke (morphologically) on *Drosera* and Professor B. L. Robinson—always known as "Dr. Robinson"—discussed (taxonomically) the genus *Hypericum*. In December, 1902, I was elected a member of the Club—an indirect result, it would seem, of the abnormal pigmentation of a few blueberries!

The Club has been very conservative in its ritual⁷ as well as in its membership, so that the early meetings in this century in

⁴ *L. C.*

⁵ *Rhod.* 3 (Nov., 1901), 265.

⁶ Not, as *Gray's Manual*, 8th edition, states, f. *leucocarpum*.

⁷ Among conservative touches is the appointment, at elections of officers or members, of "scrutineers" rather than anything so commonplace as "tellers."

many respects resembled those of the present day: an irregular and straggling assembling for conversation and exchange of specimens between 7:30 and 8:00 p. m., during which time some members would probably try to secure the identification of puzzling specimens from Messrs. Robinson, Fernald, or—for the fungi—Hollis Webster. The call to order came about 8:00, with the President seated at the table in front, flanked, as now, by the Recording Secretary at his left and the Corresponding Secretary at his right, the Vice-President and the Treasurer having never been so featured. After the formal papers and various short and impromptu notes from the floor there followed an ample collation. A long table, loaded with viands, such as chicken croquettes, cold joints, salads, scalloped oysters, and ice-cream, was replenished by one or two bustling waiters. Where Emile F. Williams was, there one was sure of something worth eating! Austerity came with his demise and with the economies of the First World War.

Sketches of the chief officers and of one or two prominent members may make clearer the picture of the Club as a whole, and I shall start with those at the head table.

The President, Professor Roland Thaxter, was the son of Celia Thaxter, the writer and poetess of the Isles of Shoals, though he himself was more firmly rooted on the mainland at Kittery, Maine, where he had a summer cottage with a lawn upon which seemed to grow specimens of all the supposedly rare cryptogams which enthusiastic and ambitious students brought in to him from all sources for his approbation. He was a serious, brown-bearded man,⁸ with a cool New England reticence and a cautious understatement which effectively deflated any over-exuberant enthusiasms of the inexperienced. From friends of mine who were his pupils I gathered details which increased the natural awe in which one would regard so august a personage.

(Digression on the common house-fly.) This aggressive and pertinacious animal (the existence of which has, from antiquity, constituted one of the greatest obstacles to belief in a beneficent divine providence) in late summer loses its *élan vital*, and clings feebly to walls and ceilings, not, as I am told, because of cold

⁸ Many members then wore beards or side-whiskers; one of the last, if not the very last, disappeared with the death of Merritt Fernald.

weather, but from the growth upon its shins of a vegetable parasite of the genus *Laboulbenia*. In our present sadly commercialized age we might try to raise, by selection, hybridization, or by some bonus, incentive, or retiring allowance, a bigger, better, busier *Laboulbenia*, and to get her more promptly on the job. But Roland Thaxter was reputed to have said that if any problem upon which he was engaged proved susceptible of any economic application he should immediately lose all interest in it. Nature, then, had to take its course, while this greatest *Laboulbeniaceologist* of the Charles River basin, if not of Eastern Massachusetts, kept his escutcheon untarnished—save by fly-specks. So Aristotle says:⁹ To be always seeking after the useful does not become free and exalted souls." (End of digression on the fly.)

At the President's left, as now, sat the Recording Secretary. In 1902 this functionary was Emile Francis Williams, born in France, and (at that time) a stout, jolly bachelor, a prosperous importer of Oriental rugs, a thoroughly competent epicure, and a devotee of the theatre.¹⁰ His minutes were entertaining to hear, partly from their breezy humor and the gusto with which he read them, and partly from the entanglement of his tongue in the pronunciation of the longer scientific names. As a field collector he prepared beautiful specimens for his large herbarium, and introduced a new method of folding plants too long for an herbarium sheet, by inserting in the pressing papers a thin sheet of metal to hold the recalcitrant leaves and twigs in place during the drying process.¹¹ While Thaxter intensively scrutinized his lawn at Kittery, Williams made trips, usually with companions, like the Faxon brothers, Judge Churchill, or Fernald, to the White Mountains or to new localities, like Katahdin or Gaspé.¹²

At the President's right sat the Corresponding Secretary, Edward Lothrop Rand—called Ned Rand in distinction from his

⁹ *Politics*, 8, 3.

¹⁰ His noteworthy scrapbooks, with programmes of the first performances of every play in Boston worth seeing, were shown me after his death by his widow, who gave them, I believe, to the theatre collection in Widener Library of Harvard University.

¹¹ Fernald also introduced improvements in technique, including the folding of the bottom over the top instead of the top over the bottom in case of sprawling specimens, such as grasses and sedges. He also devised the use of "salivators" for holding delicate leaves and petals open during drying.

¹² A posthumous article by Fernald in *Rhod.* 53 (1951), 1–6, describes the first expedition of Fernald and Williams to the Gaspé peninsula.

contemporary member Harry Seaton Rand,—a Boston lawyer who lived in a very retired house at Porter Square in North Cambridge, approached through a long garden walk where one seemed to leave behind all the noises of the town. He was a lean, dark-complexioned man, of laconic utterance but abounding and ready wit, both dry and more explosive, with which he liked at times to tease his intimates, especially Walter Deane, upon whom he wrote the classic verses sometimes read at the celebrations of this club, beginning "In the youth of Walter Deane." Rand was a keen and tireless collector in a limited district, who made Mt. Desert Island perhaps the most intensively collected area of its size in New England, and who, assisted by J. H. Redfield and encouraged by President Eliot, published the standard flora of that island.

Appearances are often deceptive, but the membership of the Club, as seen at its meetings, gave the impression of greater age than at present, partly by the prominence of beards and partly because there were fewer graduate students than today, H. H. Bartlett, S. F. Blake, A. H. Moore, and Harold St. John being among the few nearly contemporaneous with myself whom I can now recall. As a result of fewer students there was a larger proportion of permanent members, with many whose regularity in attendance at meetings was conspicuous, an especially notable case being that of J. F. Collins, the bryologist from Brown University—a most helpful and practical companion on field expeditions,—who, despite the weather, never failed to come up from Providence for the monthly meetings. Many of the members had their own herbaria, accounts of some of which may be found in the successive instalments of Miss Mary A. Day's articles on the Herbaria of New England in the third volume of *Rhodora*. There was competition, both quantitative and qualitative, between these different collectors, the largest herbaria, I should say, being those of Deane and Williams, and the finest specimens, in general, being those prepared by Fernald, Williams, R. A. Ware, and (later) C. F. Batchelder. These private herbaria became, in many instances, important feeders for the Gray Herbarium and those of the Club and the Boston Society of Natural History, though some, like that of J. R. Churchill, went farther afield. Some of the members exchanged widely, particu-

larly with other regions in the range of *Gray's Manual*, but Judge Churchill admitted to his herbarium only specimens culled by his own hand.

Many of the members were amateurs, who had taken up botany, sometimes in middle life, as an avocation from their professions in other fields; for example the wealthy and generous banker N. T. Kidder; three judges: J. R. Churchill ("the judge" *par excellence*, botanically speaking, though perhaps their Honors Dodge and Jenny may have outranked him juridically); lawyers like E. L. Rand; physicians like Doctors Kennedy, Webster, and (the elder) Cheever; educators like President Brainard of Middlebury College, Headmaster W. L. W. Field of Milton Academy, and Hollis Webster of Cambridge; an artist in the person of F. Schuyler Mathews—an important illustrator for the seventh edition of *Gray's Manual*; a country store-keeper, that shrewd and lank Yankee C. H. Bissell, of Southington, Connecticut; and business men like Williams and R. A. Ware. Several were specialists in other scientific areas: J. H. Sears in geology, H. P. Kelsey and W. P. Rich in horticulture—the latter a constant explorer of the flora of the Boston dumps—, William Brewster and Walter Deane in ornithology, J. H. Emerton in spiders, and F. F. Forbes, an official in the Brookline waterworks, who from its ditches collected diatoms. These varied types converged somewhat into the old-fashioned naturalist, men like Gilbert White of Selborne, England, and Henry D. Thoreau of Concord; observers of trees, herbs, birds, rocks, weather, and often of men, who were able to talk (and sometimes to write) so as to interest others in what had interested them. They were still unafraid of experts; men of the field rather than of the laboratory,¹³ with the originality of view and picturesqueness often found in those who are free from the taboos of professional etiquette, and with an enthusiasm which has proved a strong motive force in the development of this club.

On the other hand, the Club in the period under discussion was more narrowly concerned than today with the area of New England. The name of its organ, *Rhodora*, was chosen to indicate, in a general way, the geographic range of articles for which

¹³ Professor Fernald used to maintain that the laboratory kills most of a student's natural interest in the world around him.

it was designed. This range expanded, however, with the extension of interest of Professor Fernald, to Gaspé, Nova Scotia, Newfoundland, Lake Superior, and, finally, tidewater Virginia. Several of the members had published local floras, e. g., in addition to Rand and Redfield for Mt. Desert, L. L. Dame and F. S. Collins (of the old Middlesex Institute at Malden) for Middlesex County, John Robinson for Essex County, Ralph Hoffman for Berkshire County, C. H. Bissell for Southington, Connecticut, and G. G. Kennedy for Willoughby, Vermont.* Advance studies or additions for these floristic undertakings frequently first appeared in remarks or papers at the Club meetings and later in the pages of *Rhodora*, as well as topical or monographic treatments of particular groups of plants. I well recall F. F. Forbes's beautiful slides of diatoms and President Brainerd's spirited discussions of hybridity in *Viola*, in which he developed the "love-life" of these seemingly innocent plants with almost the breathless thrill of an unfolding detective story. Illustrated talks were in the earlier years fewer than now, but with the exploration of regions unfamiliar to most of the members, and particularly with the excellent photographs taken by Fernald and J. F. Collins in Gaspé and Newfoundland, such became more frequent. Certainly there was much more in the early years of the exhibition of specimens hung up on the nets for discussion and later inspection.

The most influential member of the Club, over a long series of years, was undoubtedly Merritt Fernald, but since his life, personality, and work have been rather fully treated elsewhere I shall not discuss him further in this paper, but out of the remaining members select for brief mention two others as being especially typical.

Walter Deane was the son of a distinguished historian, Charles Deane. After teaching in St. Mark's School he married the daughter of its headmaster, Dr. Coolidge. The Deanes lived in a double house on Brewster St. in Cambridge, connected by an inside door with the Coolidges on the other side of the wall, and after the deaths of Dr. and Mrs. Coolidge the Deane household expanded into both houses, which were crowded to the roof with

* Professor Pease has modestly omitted reference to his own "Vascular Flora of Coös County, New Hampshire," published in 1924.—Eds.

books, pictures, and herbarium cases. Deane had the time and a passion for extreme documentation (perhaps an inheritance from his historian-father?), and his pictures were labelled on the back with the names of artists, donors, owners, subjects, and criticisms made by those who had seen them. Hundreds of his herbarium sheets were similarly marked with the visas of Robinson, Fernald, L. H. Bailey, and many others, earlier and later. Ned Rand made somewhat merry over this documentary habit, and once asked me, with a twinkle in his eye, how valuable today I thought that the visa of Dr. Gray on a sheet of *Antennaria* would be. Deane's principal activity was as curator in the private ornithological museum of William Brewster in the Brewster garden across the street from his house. His own herbarium, of perhaps 40,000 sheets, was in part composed of his own collections, chiefly at Whitefield and later at Shelburne, N. H., in part of generous gifts of duplicates from Judge Churchill, and in part from other correspondents. He did much work on it himself and always went into all points in great detail, though usually bowing to the judgment of experts. Active in the Nuttall Ornithological Club and for many years secretary of the Old Cambridge Shakespeare Association, he devoted also to this Club much time and loyal attention. A childless man with a most fatherly manner, he always beamed with geniality and enthusiasm, and he was in his day probably the most generally beloved member of the Club.

Joseph Richmond Churchill, of Meeting House Hill in Dorchester, was for sixty years judge in a municipal court. He was a portly man, with grey sidewhiskers and a calm, unhurried look and manner. He collected in many parts of the *Manual* range, showing considerable initiative in selecting the unusual places to which he went—often with his wife and daughter—but on an expedition with other men the party was often a good deal delayed because he must get a specimen of each rarity found but must also collect this by plucking it with his own hands, sometimes while boosted up to a ledge on the back of Fernald or some other stalwart companion. I several times collected with him in the field, and remember very clearly a trip in the Blue Hills near Milton, on which we passed a field conspicuously placarded with "No Trespassing" signs. The judge caught sight of a

rather rare weed among the grain, and walked to the fence to view it more closely. He looked at the weed and then at the signs, and then at the weed again, and I could see the external evidences of a severe internal conflict between the judge and the botanist. The botanist won, and he explained to me that he was probably really doing a favor to the landowner by removing this weed before it spread and became a pest.

These are but a few of many memories of the earlier period of the Club, an age not necessarily better or worse than the present, but though in some external details our organization was then much like that of today, yet in other details, of human personalities, the Club stood in considerable contrast at various points. As Tennyson remarks,

God fulfills himself in many ways,
Lest one good custom should corrupt the world.

A NEW HEUCHERA FROM MISSOURI TOGETHER
WITH SOME NOTES ON THE HEUCHERA
PARVIFLORA GROUP

C. O. ROSEND AHL

A NUMBER of years ago Dr. Steyermark sent me a specimen of a *Heuchera* from Wayne County, Missouri which at the time Dr. Butters and I took to be a hybrid of *H. puberula* \times *H. americana* var. *hirsuticaulis*. Upon further examination of the material I became convinced that this surmise was wrong for I was unable to find any clear evidence of any admixture of var. *hirsuticaulis* in the assumed cross. Also it was manifest that the plant was closer allied to *H. parviflora* var. *Rugelii* than to the geographically more restricted *H. puberula*. Although it clearly differed from typical *Rugelii* in the densely glandular-villous petioles and stems, in the less open inflorescence with more numerous shorter pedicelled flowers I was nevertheless disposed to regard it only as a somewhat aberrant individual of this wide ranging variety. Later on Dr. Steyermark sent me more material and at the same time called attention to several vegetative and floral characters in which it differed from var. *Rugelii*. He suggested that it might prove to be something new.

With the aid of this material it has been possible to undertake a more thoroughgoing study and clear up the earlier doubt about the proper status of the plant.

Heuchera missouriensis sp. nov. Acaulescens vel subcaulescens e caudice crassa, reliquis petiolorum vetustorum vestita; folia petiolis (5) 8-14 (19) cm. longis dense villosis pilis longis glandulosis pallido-ferrugininis vel sordidis; stipulis oblongis adnatis fimbriatis 5-10 mm. longis; laminis 8-12 cm. longis, 10-14 cm. latis orbiculari-reniformis plerumque 7-9 lobatis, lobis crenato-dentatis, dentibus late-obtusis mucronatis vel interdum acutiusculis, superficie superiore plus minusve villosa, inferiore dense villosa praesertim in venis primis; caules floriferi 20-36 cm. alti glanduloso-villosi, bracteis sterilibus nonnullis et interdum 1-2 foliis minoribus instructi, bracteis fertilibus atque sterilibus 3-8 mm. longis, prope basin trifidis consistunt in laminibus mediis angustis plus minusve laciniato-pinnatifidis atque stipulis binis adnatis ovatis vel lanceolatis fimbriatis; paniculae 10-18 cm. longae, angustae multiflorae; cymulis (5) 7-9 (12) floriferis, dichasialis; pedicellis ad 5 mm. longis demum areuato-recurvatis; flores parvi glanduloso-pubescentes in anthesin 3.5-4.5 mm. longi, calycibus brevibus turbinatis 2-2.5 mm. longis rubro-brunescentibus; sepalis ovatis, obtusis 1-1.2 mm. longis etiamque latis; petalis albis oblanceolatis 1.6 mm. longis, 0.6 mm. latis breve unguiculatis; staminibus 2.5-3 mm. longis; filamentis subclavatis; stylis sensim attenuatis primum sub-divergentibus demum divaricatis, ad basin minute-puberulentis; stigmata sub-capitata; fructus turbinatus 2.4-3 mm. longus, rostra capsularum valde divaricata vel recurvata; semina nigra 0.35-0.45 mm. longa leviter verrucoso-striata.

The species is known from two stations in southeastern Missouri, one in Madison County on limestone bluffs along the St. Francis River near the mouth of Captain Creek—*Steyermark* 20980, Nov. 15, 1936; the other in Wayne County at Hall's Bluff, south of Davidson's Blue Spring, also on limestone,—*Steyermark* 6342 (type), Sept. 1, 1938. Two additional collections from the latter station are *Steyermark* 11542, July 9, 1936 and *Steyermark* 66966, Oct. 21, 1948.

As already stated the new species is closely related to *H. parviflora* var. *Rugelii*. It differs from the latter in the more densely glandular-villous pubescence of stems, petioles, and under surface of the leaves, in the narrower inflorescence with more numerous shorter pedicelled flowers (Pl. 1166) with short blunt sepals which are as wide as long (Fig. 4) and in the petals which have a short instead of a relatively long, slender claw (Fig. 5). In var. *Rugelii* as the fruit develops the part of the hypanthium adnate to the ovary enlarges considerably resulting in an ovoid capsule with a rounded base, whereas in *H. missouri-*



Photo by Wilma Monserud
HEUCHERA MISSOURIENSIS ROSEDAHL

ensis there is scarcely any such enlargement so that the capsule remains oboconic at the base (Fig. 3). The mature fruit of the former, exclusive of the styles proper, measures 3.5–4.5 mm. in length contrasted with 2.5–3 mm. for the latter. The beaks of

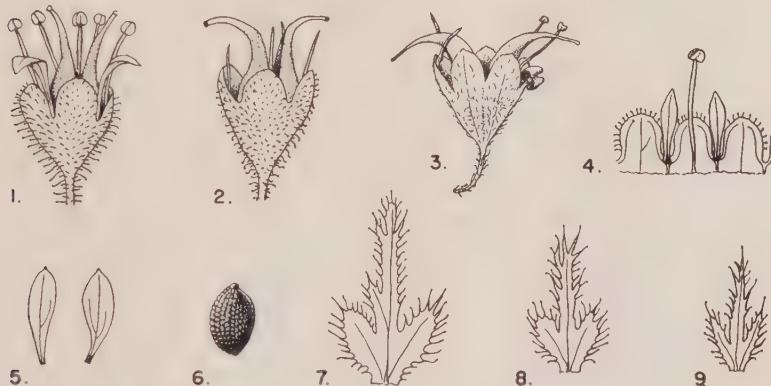


FIG. 1. Flower at anthesis, $\times 5$; FIG. 2. Immature fruit, $\times 5$; FIG. 3. Fully mature fruit, $\times 5$; FIG. 4. Part of dissected flower, $\times 5$; FIG. 5. Petals $\times 5.5$; FIG. 6. Seed $\times 23$; FIG. 7. Bract from below inflorescence, $\times 3.5$; FIG. 8. Bract from base of inflorescence, $\times 3$; FIG. 9. Bract from about middle of inflorescence, $\times 3.3$.

the mature carpels in var. *Rugelii* are for the most part erect or only slightly divergent with the styles directed forward, while in *H. missouriensis* the beaks are widely spreading and the styles usually recurved (Fig. 3). The seeds of *H. parviflora* and its var. *Rugelii* appear smooth (under a magnification of $\times 20$) or at most marked with a few faint irregular ridges, while in the new species the seeds are finely verrucose-striate (Fig. 6).

In our monographic treatment of *Heuchera*¹ we pointed out that *H. parviflora* var. *Rugelii* is much more widely distributed than var. *typica*, occurring from western North Carolina northward into West Virginia, thence westward through Tennessee, Kentucky, southern Indiana to southern Illinois and south into northern Georgia, Alabama and Mississippi. Throughout this wide territory the variety is remarkably uniform as regards inflorescence, flowers and fruit but may vary considerably in the amount of pubescence of stems, petioles and leaf blades. In

¹ Rosendahl, Butters and Lakeia, A Monograph of the Genus *Heuchera*. Minnesota Studies in Plant Science 2: 38, 1936.

some collections from southern Illinois, particularly G. H. French No. 2062, from Carbondale and Leslie Hulbright No. B2280 from 3 miles south of Ava, both in Jackson County, and E. J. Palmer No. 16659 from Tunnel Hill, Johnson County, the plants approach *H. missouriensis* in degree of pubescence and in the size of the leaves but in flower, fruit and seed characters they are nevertheless quite typical var. *Rugelii*. Collections of *Heuchera* from Missouri which have been identified and reported either as *H. parviflora* or *H. Rugelii* are *H. puberula* Mackenzie & Bush. Most of them were made before the establishment of this species in 1905 but a few are also of later date. It is reasonable to expect that var. *Rugelii* may still turn up in Missouri since it occurs in at least two of the counties of Illinois bordering on the Mississippi River but so far I have no evidence that its range extends farther westward.

H. puberula is apparently a common and characteristic element of the Ozarkian flora of middle southern Missouri and adjoining parts of Arkansas, judging by the numerous collections of it preserved in the herbarium of the Missouri Botanical Garden. Of the more than two score sheets I have examined all are of collections from this circumscribed area with the solitary exception of one of W. W. Eggleston (No. 5467) ticketed "Plants of Leichfield Grayson County, Kentucky." Leichfield is situated more than 300 miles farther east than the nearest known station for the species in Missouri. The specimen in question is without doubt true *H. puberula* but the fact that I have seen no other collection of the species from the Leichfield region nor from anywhere else between there and the easternmost station in Missouri leads me to suspect that there may have been a mix-up of Eggleston labels with Missouri plants. An isolated occurrence of the species near the middle of Kentucky is of course possible but until it is corroborated by additional material there is good reason for being skeptical about it. *H. puberula* is readily distinguished from the other members of the *parviflora* group by the characteristic short glandular puberulence of stems, petioles and leaf surfaces. The puberulence varies from sparse to dense and in some cases a short portion of the petiole immediately below the leaf blades may be short glandular-villous. Very rarely plants are encountered with scattered longer glandular hairs on the

petioles. In a majority of specimens examined the under surface of the leaf is deep purple but this character is not constant and degrees of purpling occur sometimes in other members of the group. The bracts of *H. puberula* are dark brown in color, narrowly lanceolate and ciliate on the margins and either glabrous or only glandular-puberulent on the back. In the allied species the bracts vary from 3-lobed to trifid to broadly oblanceolate with fimbriate margins and are more or less rusty villous on the back. The flowers are normally larger than in the varieties of *H. parviflora* and in *H. missouriensis*. The sepals are usually green-tipped and the petals have a narrowly lanceolate blade and a long slender claw. Sometimes they are almost linear. The mature capsules are 4–5.5 mm. long and the seeds are short-fusiform and faintly ridged.

The plants are calciphile, and occur on moist shaded ledges of limestone bluffs. They are fall blooming, most of the specimens observed in full flowering condition being collected from the latter part of September until late October. *H. missouriensis* on the other hand blossoms during July.

The author wishes to express his thanks to Dr. Steyermark for kindly supplying him with material and data and to the Missouri Botanical Garden for the loan of specimens.

DEPARTMENT OF BOTANY, UNIVERSITY OF MINNESOTA

SMILAX HISPIDA VERSUS *S. TAMNOIDES*

ROBERT T. CLAUSEN

FOR many years, the Bristly Greenbrier of eastern North America has been designated by the appropriate name, *Smilax hispida*. In 1944, Prof. Fernald (RHODORA 46: 38–39) changed his usage and argued that the correct name for this species should be *S. tamnoides*, the name which he adopted in the eighth edition of Gray's Manual. The purpose of the present short discussion is to evaluate the status of *S. tamnoides* and *S. hispida* as possible names for Bristly Greenbrier.

Linnaeus listed *Smilax tamnoides* in edition 1 of Species Plantarum. His brief description in Latin appeared on p. 1030 of vol. 2. Literally translated, this description indicates that *S.*

tamnoides has a prickly terete stem and leaves which are unarmed, many-nerved, cordate and oblong. Linnaeus cited Catesby's Natural History of Carolina, Florida and the Bahama Islands, vol. 1, p. 52, pl. 52, also he quoted the Latin name used by Catesby for the *Smilax*. From this polynomial designation the additional fact is available that the fruits are black. According to Linnaeus, *S. tamnoides* occurs in Carolina, Virginia and Pennsylvania.

Fernald stated in 1944 that *S. tamnoides* was based on two different items. The first was a specimen of the herbaceous *S. Pseudo-China*. The second and, according to Fernald, primary basis for Linnaeus' concept, was Catesby's plate 52 and accompanying description. According to Fernald's view, the plant illustrated and described by Catesby is the one which Coker (Jour. Elisha Mitchell Sci. Soc. 60: 48-49. 1944) called *Smilax hispida* var. *australis*.

S. tamnoides L. has been interpreted differently by various authors. Since Fernald stated that the species was based in part on a specimen which is the unarmed *S. Pseudo-China*, his view apparently is correct that the description of a prickly plant was not based primarily on the specimen in the Linnaeus herbarium. Accordingly, Catesby's description and illustration are all important in the typification of *S. tamnoides*. Readers who are able to consult Catesby's book will encounter a surprise when they examine plate 52. It depicts an anomalous greenbrier with a Crested Flycatcher perched upon it. The *Smilax* is anomalous because it has the long peduncles and clusters of 25-32 fruits characteristic of *S. Pseudo-China*, but, prickles and leaves as in *S. Bona-nox*. The prickles are sparse, slender, broadest at the base and green, quite unlike the abundant black bristles of *S. hispida*. In the description, Catesby described the peduncles as "above three inches long." This statement and illustration are in agreement with Coker's opinion expressed on p. 30 of the article already cited, that Catesby illustrated '*S. tamnifolia* (= *S. Pseudo-China*) in plate 52. Coker's additional comment that Catesby's statement about the roots refers either to *S. lanceolata* or *S. auriculata* further illustrates the confusion about the interpretation of Catesby's plate 52. The impression created is that Catesby's illustration and description were pre-

pared from diverse materials. Probably no species exists with the combination of characteristics as depicted. In view of this situation, despite Fernald's claim that Catesby's plate is a beautiful match for *S. hispida* var. *australis*, a definite identification of this plate or accompanying description seems impossible. Catesby's *Smilax bryoniae nigrae foliis, caule spinoso, baccis nigris* is not capable of precise interpretation. If that is a primary basis for *S. tamnoides* L., as seems probable, then Linnaeus' name should be regarded as ambiguous. It should be deleted from further consideration. This conclusion enables us to continue to employ *S. hispida* Muhl. (Torrey, Fl. N. Y. 2: 302. 1843), probably based on plants both from Pennsylvania and New York, and clearly described as with the stems hispid and with the supplementary notes by Torrey that the prickles are slender and the fertile flowers about six in an umbel.

The Bristly Greenbriers of the Coastal Plain of the southeastern states, from Virginia to Texas, appear to differ from the northern and upland plants in their pandurate leaves of somewhat firmer texture. These have been named *S. hispida* var. *australis* Norton in Small. In accordance with the recent action of the International Botanical Congress regarding nomenclaturally typical subspecies and varieties (See Science 112: 444. 1950), the variety with ovate leaves should now be designated as *S. hispida* var. *hispida*.

DEPT. OF BOTANY, CORNELL UNIVERSITY
ITHACA, NEW YORK

FOUR PLANTS NEW TO THE ILLINOIS FLORA.—During my field work in 1950, I found three species which are apparently new to the Illinois flora. A high school teacher called my attention to a fourth species.

SPECULARIA BIFLORA (R. & S.) Fisch. & Mey.—Palmer and Steyermark¹ reported this species from 16 counties in southern Missouri. Fernald² reported its occurrence as far north as southern Kentucky and Missouri in the Mississippi valley but did not include Illinois. I found this plant in three sites, two in

¹ Ann. Mo. Bot. Gard. 22: 375–746. 1935.

² Gray's Manual of Botany, ed. 8. 1950.

Pulaski County, and the third in Johnson County, Illinois. Specimens in the herbarium of the Illinois State Natural History Survey are from the following localities.

JOHNSON Co.: Field, Borax Cave, west of Goreville, June 11, 1950, *R. A. Evers 23744*. PULASKI Co.: Waste place, Lock and Dam No. 53, east of Olmsted, June 10, 1950, *R. A. Evers 23574*; in a field, 1 mile north of Lock and Dam No. 53, east of Olmsted, June 10, 1950, *R. A. Evers 23582*.

RUDBECKIA MISSOURIENSIS Engelm.—While observing the flora of the rock and loess hill prairies on the bluffs of the Mississippi River, I first noticed a coneflower that did not have the aspect of the common Black-eyed Susan. Upon examination I found that the pales were not bristle-tipped and bristly-ciliate as in the Black-eyed Susan. I determined this coneflower as *Rudbeckia missouriensis* Engelm., took samples to the Missouri Botanical Garden, and in comparing found them to be conspecific with specimens of *Rudbeckia missouriensis* collected by J. A. Steyermark and others. Palmer and Steyermark (l. c.) reported this plant from "Southern and central Mo. south and east of a line drawn from St. Charles, Montgomery, Boone, Morgan, Hickory and Polk counties to Benton Co." Its occurrence in southwestern Illinois could very well be expected. I have collected specimens from the following localities.

MONROE Co.: Hill prairie south of Valmeyer, September 2, 1949, *R. A. Evers 20485*; July 9, 1950, *R. A. Evers 25180*; August 30, 1950, *R. A. Evers 27170*; hill prairie southeast of Fults, August 30, 1950, *R. A. Evers 27100*; rock prairie southeast of Fults, August 30, 1950, *R. A. Evers 27054*. RANDOLPH Co.: Hill prairie above Columbia Quarry, north of Prairie du Rocher, July 29, 1950, *R. A. Evers 25648*; September 19, 1950, *R. A. Evers 27538, 27566*; hill prairie north of Columbia Quarry, north of Prairie du Rocher, September 19, 1950, *R. A. Evers 27595B*.

HELIOTROPIUM TENELLUM Michx.—This "delicate" heliotrope grows in eastern, central and southern Missouri according to Palmer and Steyermark. I found it growing on a rock ledge on the bluffs of the Mississippi River southeast of the village of Fults in Monroe County, Illinois. I have not found it in similar situations elsewhere in Monroe County nor in Randolph County to the south. Further search along the limestone ledges in southwestern Illinois may disclose a more extended range.

MONROE Co.: Rock ledge southeast of Fults, August 30, 1950, *R. A. Evers 27049*.

ERIOCHLOA VILLOSA (Thunb.) Kunth.—Mr. J. V. Myers, instructor in agriculture, Odell, Livingston County, Illinois, brought me a grass sample for identification. He later took me to corn and soybean fields near Odell where this grass was quite abundant and we collected samples. Dr. J. R. Swallen of the United States National Museum determined them as *Eriochloa villosa* (Thunb.) Kunth, the Hairy Cup-grass. In his communication, Dr. Swallen stated that this grass has been previously found on ballast in Portland, Oregon, and in El Paso County, Colorado. Its occurrence in Livingston County, Illinois, adds another Asiatic grass to the Illinois flora. In the fields near Odell, the Hairy Cup-grass apparently was more successful than *Setaria faberii* which was also present. It will be interesting to see whether or not it will spread and become a pest as has *Setaria faberii*.

LIVINGSTON CO.: In a cornfield, 3 miles east of Odell, August 25, 1950,
R. A. Evers & J. V. Myers 26812, 26813.

—ROBERT A. EVERES, Illinois State Natural History Survey,
Urbana.

A QUICKER MORE SATISFACTORY METHOD FOR SOAKING AND RE-PRESSING DRIED PLANT SPECIMENS.—Poorly pressed plant specimens may be saved for mounting on herbarium sheets by an extension of the method of Fassett.¹ The specimens to be soaked are placed separately between metal corrugates as used in drying fresh plants and submerged in a very dilute solution (about 1 tablespoon per gallon water) of any household detergent such as "Dreft," "Vel," or "Tide." The stack of material should be weighted down to prevent the floating of particles or intermingling of different specimens. The specimens should be completely covered by the solution and allowed to soak for about twenty minutes for ordinary herbaceous species and thirty to thirty-five for tough woody and succulent species.

When soaking a number of plants together a simple numbering procedure, wherein corresponding numbers are placed between the corrugates and in the sheets from which the plants were

¹ Fassett, N. C., "Herbarium Technique," *Rhodora* 51: 59, 60. Mr. 1949.

taken, will enable their being reunited with their original label upon completion of re-pressing.

After the elapsed soaking periods prescribed above, the plant specimens are removed from the solution, excess water allowed to drain, and placed in dry collection sheets, blotters, etc., and dried in the usual manner.

The major advantages of this method are that it results in a quality of specimen far superior to that obtained from soaking in tap water before re-pressing. Also it saves time requiring three or four hours less for each group of specimens. The method has been used in the Herbarium of the United States National Arboretum for approximately one year. To date all the specimens so treated have exhibited no ill-effects.—GABRIEL EDWIN. U. S. National Arboretum, Bureau of Plant Industry, Soils, and Agricultural Engineering, Beltsville, Maryland.

A WHITE FORM OF *TRILISA PANICULATA*.—The three species of *Trilisa* of the southeastern United States all normally bear reddish-purple flowers. No white form of any of them is listed in the Gray Herbarium card catalog of new names, and there is no material of any in the U. S. National Herbarium or the herbarium of the National Arboretum. The finding of an albino form of *Trilisa paniculata* accordingly seems worthy to be placed on record, and the form may be provided with a Latin name as a means of documenting it in the literature.

TRILISA PANICULATA (Walt.) Cass. f. **alba**, forma nov. *Phyllaria viridia; corollae et styli et pappus alba.* SOUTH CAROLINA: Small colony of about 3 plants (one several-stemmed), among pines near main road, about 5 miles south of Little River, Horry County, 11 Oct. 1947, *S. F. Blake 12366* (type no. 243471, Herb. National Arboretum).—S. F. BLAKE, Division of Plant Exploration and Introduction, Plant Industry Station, Beltsville, Maryland.

ROCKY MOUNTAIN NATURALISTS¹.—In this book portraits and biographies of nine leading naturalists, primarily of Colorado, are supplemented by a roster in biographical dictionary form, of natural history collectors of the Rocky Mountain area between 1682 and 1932. Separate chapters are de-

¹ Joseph Ewan. *Rocky Mountain Naturalists*. XV + 358 pp. (with nine portraits). Denver, Colorado. The University of Denver Press. \$5.00.

voted to Edwin James, John C. Fremont, C. C. Parry, E. L. Greene, Thomas C. Porter, H. N. Patterson, Marcus E. Jones, Eugene Penard and T. D. A. Cockerell. To one interested in the natural history of Colorado, each of these chapters makes fascinating reading, for they not only treat of the men, but include as well a narrative of the exploration in which they participated. Stories of events and numerous facts are skillfully interwoven with biographical data to produce both pleasant and informative reading. The whole, of course, is laid on a historical as well as regional background. From the point of view of obtaining facts concerning naturalists of the region, the richest portion of the book begins with chapter XI, page 138, explanatory notes and bibliography, and extends through the section containing the roster of natural history collectors, to page 344. Thus over 200 pages are packed with facts and interesting items concerning the collectors mentioned. Much untapped source material has been utilized by Professor Ewan in assembling this portion of the book and he has made it a veritable storehouse of information not otherwise easily available. Where possible, he has indicated for each collector the nature and extent of the collections made and their ultimate disposition.

The fact that the book was developed from a series of essays on Colorado botanists has somewhat limited the final product. For example, seven of the nine men singled out for special treatment are botanists. Furthermore, naturalists of the Rocky Mountain area who did not work primarily in Colorado probably did not receive the same consideration for special treatment as those whose major activities were centered there. Of the botanists, we immediately think of P. A. Rydberg and Aven Nelson who were, in our judgement, as deserving of special treatment as Marcus E. Jones, Edward Lee Greene or, in fact, any of the botanists given such attention in the book. But it is certainly an author's prerogative to select the material he wishes to treat and it is doubtful whether any two potential authors would choose exactly the same men from the long list of possibilities for special biographical attention. On the whole, Professor Ewan has made a very substantial contribution to our organized information about the naturalists of the Rocky Mountain region, and has done so with skill and acumen. He deserves special commendation for the painstaking and thorough way in which he has gathered and presented his material.—R. C. ROLLINS.

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